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A GENERATIVE SKETCH OF BURMESE.

BY- BURLING, ROBBINS
PENNSYLVANIA UNIV., PHILADELPHIA

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ASSUMING THAT A GENERATIVE APPROACH PROVIDES A FAIRLY DIRECT AND SIMPLE DESCRIPTION OF LINGUISTIC DATA, THE AUTHOR TAKES A TRADITIONAL BURMESE GRAMMAR (W. CORNYN'S "OUTLINE OF BURMESE GRAMMAR," REFERRED TO AS OBG THROUGHOUT THE PAPER) AND REWORKS IT INTO A GENERATIVE FRAMEWORK BASED ON A MODEL BY CHOMSKY. THE STUDY IS DIVIDED INTO FIVE SECTIONS, SO THAT THE FIRST THREE PRESENT THE PHRASE STRUCTURE AND KERNEL SENTENCES OF BURMESE, THE FOURTH SHOWS HOW TRANSFORMATIONS CONVERT KERNEL SENTENCES TO OTHER FORMS, AND THE FIFTH GIVES MORPHOPHONEMIC TRANSFORMATIONS. THIS TYPE OF FORMULATION, WHILE IT CONTRADICTS NOTHING IN THE OBG, GOES BEYOND THE ORIGINAL GRAMMAR AND GIVES A MORE PRECISE DESCRIPTION, ACCORDING TO THE AUTHOR. HE INCLUDES AN INDEX WHICH CROSS-REFERENCES GRAMMAR POINTS IN THE OBG WITH THEIR COUNTERPARTS IN THE TRANSFORMATION-GENERATIVE ANALYSIS. (FB)

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A GENERATIVE SKETCH OF BURMESE[1]

Robbins Burling
Center for Advanced Study in the Behavioral Sciences

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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0. Introduction

In the last few years extensive claims have been made for the superiority of generative and transformational grammars over the more conventional grammatical models that linguists have been using for some decades. Many linguists have found these claims appealing but there has been a notable lack of descriptions, according to this new model, of anything approximating a whole language. Advocates of generative grammars have more often directed their efforts toward the refinement of concepts and techniques than toward the production of substantive descriptions, but clearly the new models must be judged by their applicability to the data of natural languages.

One specific claim has been made: That by using a generative and transformational approach, one may provide a simpler description of a

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given set of linguistic data than is otherwise possible. In this paper I try to test this claim in one restricted area. Specifically, I have translated a conventional grammar, one that was written and published almost 20 years ago, into a generative and transformational form. The original grammar was a short one: Outline of Burmese Grammar by William Cornyn, hereafter referred to as OBG.[2] The morphological and syntactical data of OBG is presented between pages 11 and 33, and while no grammar of this length can pretend to "completeness" it does at least attempt to outline all aspects of the language and it is not restricted to the description of one particular feature. Since my "translation" presents no new data, it can be no more "complete" than the original. It simply reorganizes the old data into a new form. Since a "complete" grammar of a language has yet to be written, I do not feel that this is a serious limitation and in this case the brevity of the original has the advantage of permitting a comparison, the scope of which is not too overwhelming to be grasped. My objective, then, is simple: to present the data of OBG reorganized according to an entirely different grammatical model from that which Cornyn used. The point here is not to write the definitive grammar of Burmese, but simply to see if what has already been done in other ways can be done as well or better in a new form.

It would be desirable to be able to account not only for the rules which OBG gives but for all of its plentiful and excellent examples. Unfortunately, this is not feasible since the examples include a number of constructions which are never explained and which are exemplified too fragmentarily to allow me to generalize from them. I do claim, however, that

with three exceptions, all of the explicit morphological and syntactical rules given in OBG have been included within the rules of this restatement. The first and most serious exception is that I have not included some of the rules for "doubling." (OBG:168-170, 174-175. Numbers here, as elsewhere refer to sections rather than pages of OBG.) These doubling rules could be readily stated within a generative framework, but as given in OBG, the rules act upon items whose origin is not explained. I do not care to include such rules within this grammatical restatement, and they are therefore omitted. Second, I have not tried to formulate a rule to cover the "aphoristic statements" mentioned but not explained in OBG:72; and third, I cannot fully understand OBG:154.2 and so may have failed to state its rule correctly.

In this sketch I follow the grammatical model suggested by Chomsky, a form which has become familiar to linguists even though it has not been used for general grammars.[3] I first present a series of rules which constitute the phrase structure portion of the grammar and which lead to the "kernel sentences." Then I give a series of transformations which can be used to convert these kernel sentences to other forms. Finally, morphophonemic transformations show how the morphemes of these "terminal strings" can be expressed in phonemes. I have not included a statement of the phonetics of these phonemes, a task peripheral to my main objectives. The sections of OBG which deal with phonemes (OBG:1-30) therefore have no equivalent here. The remaining sections of OBG are listed at the end of this paper with references to the sections of this restatement which cover their rules.

The form of a generative-transformational grammar is a peculiarly terse one. This may be regarded as desirable simplicity and elegance but its lack of redundancy can easily lead to difficult if not completely unintelligible formulae. In order to limit the obscurity as far as possible, but still retain the elegance, I continually shift back and forth between two modes of presentation in the description that follows. I first give the rules that are required to generate the sentences in a terse and, I hope, reasonably elegant fashion. These are the numbered statements, and strictly speaking, they are all that is necessary for the grammar. To lighten the burden on the reader, however, and to make clear the reasons for my formulation and explain its relation to the original in OBG, I regularly step out of this formal mode and describe in more conventional prose what the rules mean and explain their implications. In the formal rules, no reference is made to meaning, but in the commentary, I freely point out the meanings of morphemes, classes, and constructions.

I am repelled by the extremely parsimonious symbolism of some grammars. Since I am writing for human readers rather than for a machine, and since humans find that a moderate amount of redundancy aids comprehension, I have written out the names of grammatical classes more fully than is strictly necessary, and I have tried to limit the use of terse but obscure symbols. As far as possible I have retained the names of the grammatical classes used in OBG in the hope that this would facilitate comparison, but I have been forced to revise these in places and to add many new names.

I leave the reader to decide whether this or OBG offers the simpler, more elegant description, but I would point out that my presentation achieves

two things which may not be immediately apparent. First, a number of grammatical generalizations seem implicit in the examples of OBG but are not formulated explicitly by it. Many of these generalizations have become explicit in this grammar, and to that extent my formulation does go beyond that of OBG. Second, a number of uncertain points about the grammatical structure of Burmese seem somewhat painfully obvious in my presentation, and the criticism might be leveled that even if no grammar can pretend to "completeness," the gaps in this one are still too obvious to overlook. It is my conviction that the generative-transformational mode of presentation is advantageous precisely because of the clarity with which the gaps can be seen. A grammar which points clearly to the limits in our knowledge should be a desirable one. Many of these gaps were not evident to me until I actually tried to reorganize the material of OBG.

In many cases the data of OBG can lend itself to a number of alternative interpretations. This must inevitably be the case in such a short grammar. Only when forced to choose between alternatives have I relied upon knowledge of Burmese outside of that given by OBG. This means that in a few marginal cases, in its greater degree of explicitness, my sketch gives a more precise description of the language than OBG. However, there is nothing in my formulation which contradicts OBG or which cannot be supported by OBG. To that extent, it is simply a translation of OBG, though it is certainly not the only possible translation. In a number of cases, however, I have pointed out areas where the data of OBG appear to be limited and the directions in which one would have to expand the grammar if one desired a more complete formulation.

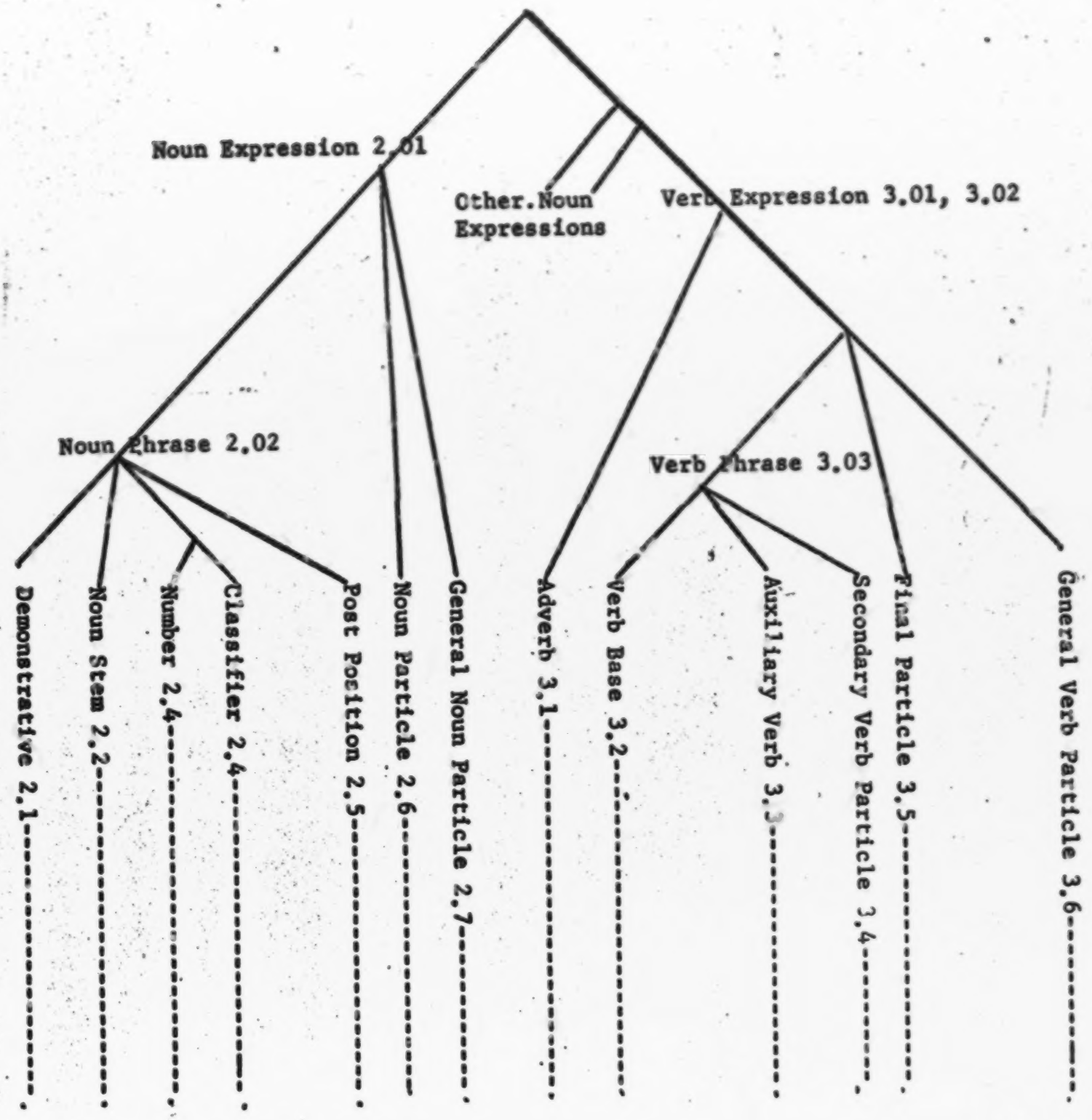
A simple comparison of overall length of the two presentations has little meaning. On the one hand, only the formulae and not the prose commentary of my presentation are essential to my sketch. On the other hand, I give fewer and shorter examples than OBG and while examples are not strictly necessary to the scheme, any grammar ought to have them. This experiment in reorganization, for instance, would have been far more difficult if not impossible without OBG's excellent examples. It must be admitted that it is peculiarly difficult to give examples in a generative grammar. The grammar is organized in such a way that highly abstract units are carried along through a series of formulae. The units may stand for either morphemes or sequences of morphemes but they may occur in a different order from that which is ultimately realized in a sentence, they may lack obligatory parts which will be introduced later, and they may be symbolized in ways remote from their ultimate phonemic form. This makes examples given in the course of the grammar look inexplicably different from the generative description which accompanies them. Comparisons with the examples in OBG will, for instance, be difficult because the transcription of OBG indicates the rather wholesale assimilation that occurs in close juncture between the final phonemes of one syllable and the initial consonant of the following syllable. Because of the assimilation, most morphemes occur in several different graphic forms in the transcription of OBG, but in this restatement they are carried through all but the very last stage in the single basic form from which the others can ultimately be automatically derived. The examples given in this reformulation are largely taken from OBG (although rewritten slightly to avoid the graphic

variability of OBG), but in a few cases new and simpler examples are supplied which illustrate the immediate point at issue more clearly than the complex examples typical of OBG.

The form of generative grammar used here minimizes the distinction between morphology and syntax. If the conventional distinction between these were made, it would presumably separate the description of forms united in close juncture from the description of forms (words) separated from one another by open juncture. By minimizing this distinction, similar constructions which differ only in the apparently trivial aspect of juncture (such as various postpositions) may be brought together.

Linguists have found it difficult to give "morpheme" a precise definition. This grammar sidesteps the problem by simply recognizing that certain significant units are useful in the grammatical analysis and by using the term "morpheme" for these units. In a few cases these units are somewhat larger than those conventionally labeled "morpheme." In particular most conventional grammars would probably treat the discontinuous items as if they had as many morphemes as they have elements, and they are so considered in OBG. Since they are introduced as units in this grammar, and since the parts do not occur alone, they can be treated as morphemes here. Ma + phâ 'negative,' ma + nè 'negative imperative,' and ma + phê 'without,' can thus be considered three separate morphemes since they are introduced as units at three places in the grammar, in spite of the obvious resemblance in the form and meaning of ma in the three cases.

Figure 1 illustrates the generation of one sentence. It may help the reader grasp an overall view of the language and it may help make the


Sentence 1.1, 1.3
Noun Expression 2.01
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General Verb Particle 3.6----------
hóu lú θôun yau? nauᵊ hmá lê θei? θwâ ta? chín ma lâ
that man three people behind at also very go able want future question
(Do you) want very much to be able to go behind those three men also?

Figure 1

(Numbers refer to sections in which the various classes are discussed.)

parts fit into the whole. It will be noted that, in general, I discuss items in the order in which they are most likely to appear in the Burmese sentence. This example has been chosen for maximum phrase structure complexity and minimum transformational complexity. Continued reference to this diagram may make the reading of the phrase structure portion of the grammar somewhat less difficult.

As has become conventional in explicitly generative grammars, all the rules consist of rewrite instructions with a sequence on the left of the arrow to be replaced by the sequence on the right. Where a single sequence may be rewritten in a number of alternate ways, the alternatives are placed in braces $\{\ \}$ except that when one of a series of morphemes is to be chosen to fill a particular class, the morphemes are simply listed to the right of the arrow and the braces are omitted. In either case, when generating a sentence, one must choose only one from among these possibilities. Parentheses () indicate that the items they enclose are optional: they may be included or they may be omitted entirely. Initial capitals are used on cover terms for grammatical categories such as Verb, Post Position, etc. Lower case initials are used for morphemes in which the ultimate phonemic shape is anticipated. Until Section 5, however, these symbols stand for morphemes rather than phonemes and they could, at the expense of considerable obscurity in reading, be replaced by any arbitrary symbols such as numbers. Items not in parentheses must be included. +, #, $\underline{\ }$, and $\underline{\cdot}$ indicate various kinds of juncture, + being the closest, and $\underline{\cdot}$ being sentence terminal. They are carried through the phrase structure and transformational formulae, eventually to be replaced by conventional punctuation: no space, space, comma, and period.

1. Major Sentence Patterns

1.1 Sentence ⟶ { Equational Sentence ˙ / Verb Expression ˙ } (OBG:34)

1.2 Equational Sentence ⟶

Noun Expression ˌ Noun Expression (+ General Verb Particle) (OBG:42)

1.3 Verb Expression ⟶ (Noun Expression ♯) Verb Expression (OBG:79-80)

1.1, 1.2, and 1.3 develop the major sentence types of Burmese. The most common sentence type (shown in 1.3) is terminated by a Verb Expression which may have one or more Noun Expressions preceding it. The parentheses of 1.3 show that no Noun Expression at all need be included, but since the term "Verb Expression" occurs on both sides of the arrow, one must understand 1.3 as a recursive formula which can be used several times so that several Noun Expressions may be introduced into the same sentence and associated with the same Verb Expression. In fact, many long Burmese sentences include several Noun Expressions (subject, object, locative, etc.) strung along before the Verb Expression.

An alternative sentence type, the "equational sentence," is formed from two Noun Expressions alone (1.2). Semantically, these equational sentences state that the object designated by one noun is the same as the object designated by the other. The result of these formulae is to leave us with two types of expression, those constructed around Nouns, and those constructed around Verbs. These will be considered below in sections 2 and 3 respectively.

2. Noun Expressions

2.0 Noun Expression Phrase Structure

2.01 Noun Expression $\longrightarrow$ Noun Phrase (+Noun Particle) (+General Noun Particle)

2.02 Noun Phrase $\longrightarrow$

$$\left\{\begin{array}{l}\text{(Demonstrative\#) Noun Stem}\\ \text{Pronoun}\end{array}\right\} \text{ (\#Classifier Phrase) (Postposition)}$$

2.01 and 2.02 develop the Noun Expression into its constituents, of which, as can be seen, there may be several. Each Noun Expression must include either a Noun Stem or Pronoun and a large proportion also contain a Noun Particle Various types of Noun Stems are developed in 2.2. The Noun Particles are rather like case markers for a Noun Particle may show such things as whether the Noun to which it is attached is the object of a verb. The absence of a Noun Particle generally indicates that the Noun is the subject of the sentence.

The only item which can stand before the Noun Stem is a Demonstrative ('this,' 'that,' 'what?' etc.). A classifier Phrase is used when counting, and if present, it follows immediately after the Noun Stem. Postpositions indicate a position relative to the object either in space or in time. The General Noun Particles are the last possible items in a Noun Expression and they show something quite general about the expressions: emphasis, courtesy, comparison, etc.

Pronouns differ in only one way from Noun Stems. They can be accompanied by all of the items of Noun Expressions except for the Demonstratives. (It is unclear from OBG whether Pronouns can be used with

Classifier Phrases, but since data outside OBG show that they can be, I indicate this in 2.02.)

The relative position of parentheses and juncture signs in these formulae is not as arbitrary as might first appear. In general, since parentheses are used to show that the item is optional, the juncture sign must be placed within the parenthesis so that it will be present or absent along with the form, otherwise superfluous junctures will accumulate.

The juncture signs indicate that Noun Particles and General Noun Particles are placed in closed juncture (shown by '+') with the preceding item (and can therefore be considered to be suffixes) whether that is a Noun Stem or a Classifier Phrase or a Postposition. The Classifier Phrase, however, is set off from its preceding Noun Stem by open juncture (shown by '#'). To judge by OBG, Postpositions are variable: some are placed in close juncture, with whatever precedes, some in open juncture. For this reason, no sign is given with the class, but the junctural characteristic of each Postposition will be indicated individually later.

In the remaining part of section 2, the various form classes which have been specified by 2.01 and 2.02 will be considered in more detail, and a few of their member member morphemes listed individually.

2.1 Demonstrative → hóu 'that'

dí 'this'

bé + lê 'which?' (OBG:131)

bá + lê 'what?' (OBG:131)

bé + mà + ma + phû 'none' 'no' (OBG:66)

bá + mà + ma + phû 'none' 'no' (OBG:66)

Pronoun + T 'possessive pronouns' (OBG:125)

bá + D + lê 'what all?' (OBG:178)

2.1 provides the first list which goes beyond morpheme classes (such as have appeared in the earlier formulae) to morphemes. As has already been pointed out, the consonant, vowel and tone marks need not be explained at this point since they simply unite in signs which stand for morphemes and do not yet stand for individual phonemes, though they do anticipate the ultimate phonemic shape. Several of these items consist of two or more parts which will ultimately be shifted about to produce discontinuous morphemes (5.21, 2.23). The discontinuities in this list provide for cases in which a Demonstrative can only be used in an interrogative or only in a negative sentence. The pronouns indicated here are possessives, and they have a different tone than when used in other positions. The tone change will be carried out in 5.38, but it is prepared for by the 'T.' D in the last example stands for "Doubling," an operation anticipated here, but carried out in 5.1. OBG does not include all these demonstratives together in a special class. It groups the interrogatives with interrogatives occurring in other classes, while hoú and dí are never explicitly considered, though they appear in numerous examples. These are the only demonstratives which appear in the rules or examples of OBG, although the language seems to have a few others (?èdí 'this,' ?èhóu 'that').

hóu yéi 'that water'

bé yéilê 'which water'

báyéimà mašìphû 'there is no water'

khínbyà yéi 'your water' (cf. khinbya 'you')

báyéi báyéi ši θalê 'what all water is there'

2.2 Noun Stems

Noun Stems include the large and important class of Noun Bases, but they also include a great many compounds and derived forms which can be produced in a variety of ways, from Verbs, Noun Bases and various combinations of both. The constructions which form these Noun Stems vary from those which are non-productive to others that seem to be completely productive. All these varieties of complex Noun Stems act exactly like the simple Noun Bases so far as their ability to become embedded within the larger constructions of the Noun Expressions and Sentences. The methods by which Noun Stems can be formed are given here in approximately the order of decreasing productivity A few examples of simple Noun Bases are given in 2.28.

2.21 Noun Stem ⟶ Noun Base # Noun Base

2.21 is apparently quite productive although certain types occur with particular frequency. The resulting Noun Stems differ from most other Noun Stems in retaining an open juncture between their constituents, but they seem to be used in the same way as simple Noun Bases. OBG does not discuss a construction of this type explicitly but it gives numerous examples which can be described in this way.

Combinations which include the name of a place or time are common:

bámá pyéi 'Burmese nation'

bámá lú 'Burmese people'

yángóun myòu 'Rangoon city'

ʔîngaleiʔ zagâ 'English Language'

ʔánándá phayâ 'Ananda Temple'

nwéi ʔùdù 'hot season'

tanînganwéi nèi 'Sunday night'

manèi nyà 'yesterday night' (last night)

Others are semantically closer to possessives:

shîn chéiyá 'elephant tracks'

ywá θajî 'village headman'

Ordinal numbers have been borrowed from Pali. They retain something of a foreign flavor but the first three, at least, are rather freely used in a similar way:

pathamà tân 'first grade' (OBG:140)

2.22 Noun Stem ⟶ Noun Phrase + Subordinating Noun Suffix # Noun Stem (OBG:128)

2.221 Subordinating Noun Suffix ⟶ kà 'of, from, at'

nè 'and, with, together with'

2.22 and 2.221 allow an entire Noun Phrase to be subordinated to a Noun Stem in a construction not dissimilar to the possessive construction in English. The resulting combination can be used in the same circumstances as a simpler Noun Stem. Burmese has another important Subordinating Noun Suffix, yè 'possessive,' but it is not mentioned in OBG.

dí ywákà θacî 'headman of this village' (dí 'this' ywá 'village,' θacî 'headman')

châuntêkà yéi 'water from the stream' (yéi 'water,' châun 'stream,' tê 'in, at')

2.23 Noun Stem ⟶ Noun Base + T # Noun Base (OBG:125)

In certain pairs of Noun Bases the tone of the first Noun Base changes. OBG buries this construction in a small section and does not clearly show the semantic use of the change in tone. It appears, however, to be the normal, colloquial way to indicate possession and to be freely

productive. The tone change is prepared for here by inserting the "T" but will be carried out in 5.38.

shàin ᵛsín 'master of the shop' 'shopkeeper' (sháin 'shop,' ᵛsín 'master')

2.24 Noun Stem ⟶ ʔa + Verb Base (OBG:150)

2.24 forms verbal nouns from verbs, and if not completely productive, it is certainly extremely common. The resulting verbal nouns can be used anywhere that Noun Bases can be used.

ʔacî 'big one' (cî 'big')

ʔawuʔ 'clothes' (wuʔ 'wear')

ʔapauʔ 'window' 'opening' (pauʔ 'to be open')

ʔaθôun 'use' (θôun 'to use')

2.25 Noun Stem ⟶ Verb Base + sayá (OBG:156)

The degree of productivity of 2.25 is unclear, but where used, it results in a Noun Stem which conveys the meaning of 'things used for' the action of the underlying verb.

sâsayá 'food' (sâ 'eat')

tháinsayá 'place to sit' (tháin 'sit down')

2.26 Noun Stem ⟶ Noun Base + Verb Base (OBG:129)

Noun Base + Noun Base (OBG:124)

Noun Base + Noun Base + Noun Base (OBG:124)

2.26 provides for three methods of forming Noun Stems which are generally less productive than those given in 2.21 to 2.24. However, tâin 'every,' myâ 'many,' and cî 'big' can apparently be added quite freely to any Noun Base to form a Noun Stem and possibly other items may act the same

way. myâ (a Verb Base meaning 'to be many, much') forms the nearest Burmese equivalent to a plural.

néitâin 'every day' (néi 'day,' tâin 'every')

lúmyâ 'people' (lú 'person, people,' myâ 'many')

lúcî 'big man, headman' (cî 'to be big')

yéikhê 'ice' (yéi 'water,' khê- 'be hard')

yéichôu 'fresh water' (chôu- 'to be sweet')

pyâyéi 'honey' (pyâ 'bee,' yéi-'water')

ŋâhîn 'fish curry' (ŋâ 'fish,' hîn 'curry')

we?θâhîn 'pork curry' (we?'pig,' θâ 'meat')

ce??u 'hen's egg' (ce? 'domestic fowl,' ?u 'egg')

θâθamî 'children' (θâ 'son,' θamî 'daughter')

2.27 Noun Stem ⟶ ta + Verb Base (OBG:151)

2.27 is a far less productive construction than the similar one given in 2.24. It may be that this forms Adverbs rather than Noun Stems, but the data of OBG are insufficient to be certain.

talwê 'mistake' (lwê 'to err')

tasâun 'slanting' (sâun 'slants')

2.28 Noun Stem ⟶ Noun Base

Noun Bases form one of the largest classes in Burmese. They form the simplest type of Noun Stem and they often enter into more complex Noun Stems as constituents. Since their use in more complex Noun Stems is not always productive, a more complete grammar would have to show explicitly which of these Noun Bases and which combination of Noun Bases enter into the various constructions of 2.21 and 2.26. No attempt to do this is made in OBG and none will be made here, but a few typical Noun Bases can be

listed. A complete grammar would have to include a large part of the lexicon at this point.

2.281 Noun Base ⟶

mî 'fire' 'light'

myîn 'horse'

khwêi 'dog'

shîn 'elephant'

θînbô 'steamboat'

ɔ́ein 'house'

ŋwéi 'money

θaŋéjîn 'friend'

námé 'name'

nyá 'night'

ywá 'village'

dâ 'knife'

θâ 'son'

dóubí 'washerman'

lóunjí 'skirt'

lú 'man'

etc.

2.3 Pronoun ⟶

cou? 'I'

khínbyâ 'you singular'

θu 'he' 'she'

cou?tòu 'we'

khínbyâtòu 'you plural'

θútòu 'they'

hóu 'that one' 'those' 'there'

dí 'this one' 'these' 'here'

bé + lê 'which?'

badú + lê 'who?'

béθú + lê 'who?'

badú + D + lê 'who all?'

béθú + D + lê 'who all?'

The pronouns listed in 2.3 are given in many examples in OBG but they are not set aside as constituting a special class. However, they differ from nouns in being unable to co-occur with a preceding Demonstrative. (A few of these are homonomous with Demonstratives, though their use here is distinctive). Burmese speakers use a large number of other items which are restricted to the same syntactic position as these pronouns but which are not included in OBG. These other "pronouns" indicate various degrees of formality and familiarity. cou?, for instance, is generally employed only in speaking to a social inferior, khínbyâ is used only by male speakers, and women use šín 'you' or one of a number of alternatives. badú and béθú are equivalent in meaning and function. (OBG:131)

θú θwâté 'he goes' (θwâ 'go')

khínbyâtòu díhmá šîté 'you (plural) are here' (šî 'to be at')

bá pyôθalê 'what did (you) say?' (pyô 'speak')

badú θwâmalê 'who will go?'

badúbadú θwâmalê 'who all will go?'

hóukóu θwâté '(he) goes there'

hóu θôunyau? θwâté 'those three people went' (θôunyau? 'three people')

2.4 Classifier Phrase ⟶ Number + Classifier (+ Numeral Suffix) OBG:132-148

2.41 Number ⟶ $\text{Number}_x + \text{Number}_{x+1}$

2.41 allows numbers to be used in pairs or in series with nothing intervening. Constructions of this sort are equivalent to English phrases with 'or.'

lêiŋâyau? 'four or five people' (yau? 'classifier for people)

2.42 Number ⟶ OBG:132

ti? 'one'	chau? 'six'
hni? 'two'	khúnni? 'seven'
θôun 'three'	si? 'eight'
lêi 'four'	kôu 'nine'
ŋâ 'five'	shé 'ten'

bèhna + lê 'how many?'

According to the analysis given here, 2.42 gives the total inventory of numbers. All larger quantities will be formed by combining these numbers with certain special classifiers. (See 2.47-8.)

2.43 Classifier ⟶ Classifier_0 OBG:141-145

Classifier_{1-7}

2.44 Classifier$_0$ ⟶ Standard Classifiers OBG:146

Echoing Classifier OBG:143

Time Classifiers OBG:144

2.43 and 2.44 distinguish the major types of classifiers. Classifiers 1-7 are used to form higher numbers. OBG does not treat Classifiers$_{1-7}$ as classifiers at all, presumably because their meanings are like certain English numbers. Nevertheless, they act as classifiers grammatically. It is convenient to regard all other classifiers as belonging to a set "0," and in section 2.48 "0" is considered to be one less than "1." The Echoing Classifiers repeat the form of the antecedent noun and the form will be introduced by transformation in 4.4. Standard classifiers constitute a list of several hundred, a few of which are given in 2.45 as examples. Time Classifiers are peculiar in that they form classifier phrases that cannot be used with a noun.

2.45 Standard Classifier ⟶ yau? 'people' OBG:142, 146, 147, 148

káun 'animals'

châun 'long slender objects'

thé 'items of clothing'

khù residual category, 'thing'

we? 'half'

lán 'arm span' (in length)

bôun 'bucket full'

sóun 'pair' 'assortment'

chân 'slice'

myôu 'kind, variety'

One typical variety of Burmese phrase consists of a Noun Stem followed by the Number and Classifier of a classifier phrase. As suggested by the glosses in this list, the particular classifier is chosen according to the meaning of the Noun Stem which it accompanies. There is considerable freedom in the choice of classifier, and typically, several different classifiers may, on different occasions, accompany any particular Noun Stem, the choice depending upon the aspect of the Noun Stem to be emphasized (OBG:148).

hóu lú θôunyau? 'those three people' (lú 'person')

nwâ bèhnakáun 'how many cows' (nwâ 'cow')

yéi tabôun 'a bucket of water' (yéi 'bucket')

yéi tamyôu 'one kind of water'

2.46 Time Classifiers ⟶ hni? 'year'

là 'month'

ye? 'day'

mani? 'minute'

náyí (#?achéin) 'o'clock'

etc.

θôunnáyí ?achéin 'three o'clock'

2.47 $\text{Classifier}_k \longrightarrow \text{Classifier}_k$ ((+nè) # Number + Classifier_j)

In 2.47 k stands for any classifier from 1 to 7 and j stands for any classifier less than k. For instance, if k is classifier_5 (θêin) then j may be 3 (thaún), but not 7 (gadéi). In other words each successive Classifier Phrase must have a lower numbered Classifier than the preceding one, and no further phrases can follow a Classifier_0. nè may optionally be

suffixed to a non-final Classifier Phrase. If present, nè serves to tie the two phrases together and emphasizes that they form part of the same number.

2.48 $Classifier_1$ ⟶ shé 10 OBG:134-139

" $_2$ ⟶ yá 100

" $_3$ ⟶ tháun 1,000

" $_4$ ⟶ θâun 10,000

" $_5$ ⟶ θeîn 100,000

" $_6$ ⟶ θôn 1,000,000

" $_7$ ⟶ gadéi 10,000,000

The list of $Classifiers_{1-7}$ in 2.48 together with formula 2.47 permits the formation of all higher numbers. Burmese enumeration is based upon a regular decimal system. Each place (unit, ten, hundred, etc.) is formed from the combination of a number together with a Classifier which shows the place which the number fills. Only the last number (in the units place) is followed by one of the Standard, Time or Echoing Classifiers. As this grammar has been developed, the Classifier Phrase with the highest numbered classifier is introduced first and 2.47 allows further Classifier Phrases to be added until a $Classifier_0$ is introduced, after which, no more can be added.

lú ŋâyá '500 people'

lú ŋâyà θôunyau? '503 people'

lú θôunyau? 'three people'

lêishè θôunyau? '43 people'

ŋâyà lêishè θôunyau? '543 people'

ǰi? shénè ǰi?káun '88 animals'

(The tones of yà and shé in the second and fourth examples have, in conformity with 5.32, been morphophonemically altered from the form in which they occur in 2.48.)

2.49 Numeral Suffix ⟶ lau? 'about' 'approximately'

jó 'more than' 'over'

thê 'alone' 'only'

mà + ma + phû 'not even' OBG:66

Numeral suffixes are not treated in OBG as a special class but to judge by the examples these (and perhaps others) appear to have the characteristic ability to be added to Classifier Phrases.

hnaye?lau? 'about two days'

hnashéjó 'more than twenty'

tayau?thê 'only one person'

takáunmà maǰiphû 'there is not even one animal'

2.5 Postposition ⟶ +dê 'inside' OBG:85, 86

#nau? 'behind' OBG:58, 68, 85

+bó 'on, above' OBG:55

+ǰèi 'ahead' OBG:154.2

#?athî 'until' OBG:42

#?apyín 'outside of, besides' OBG:66

+hóube? 'on the other side of' OBG:154.1

#shí 'near, at, in the presence of' OBG:83

+be? 'side' OBG:120, 128

Postpositions are given no explicit recognition in OBG. That grammar, however, includes many examples in which morphemes follow Noun Bases or other Noun Stems (or Classifier Phrases, if present) but which precede the Noun Particle. They appear to form endocentric constructions with the Noun Stem which they follow and these morphemes seem characteristically to show something about the position, either in time or space, with respect to the Noun Stem:

khínbyâ nau? 'behind you' (khínbya 'you')

ywâdêhmá 'in the village' (ywâ 'village'; hmá 'locative' Final Particle)

nadólà ?athî 'until the end of the month of nado' (là 'month')

myéijîbóhmá 'on the ground' (myéijî 'ground')

On the basis of OBG's examples, therefore, though not on the basis of its explicit rules, it seems reasonable to set up a class of Postpositions and reserve a special grammatical slot for them as was done in 2.02. This may not be the final word, however, since there is some evidence that these 'Postpositions' are fundamentally Noun Bases and that they could be introduced by some sort of transformation which would allow two Noun Bases to be joined, the second of which would be one of these "Postpositions." To do this would bring considerable generality to certain aspects of the grammar, but it would require several steps for which OBG offers no justification whatever. In order to preserve the objectives of this generative sketch as a translation of OBG and refrain from presenting new data, I retain the class of Postpositions as the simplest way of making sense of the examples of OBG and simply caution any reader who may make further investigations, that it may eventually prove best to eliminate the class once again.

One peculiarity of the class as here set up is that some Postpositions follow the Noun (or Classifier Phrase) in close juncture while others are separated by open juncture. Eliminating the class of Postpositions by calling them Nouns would do nothing to solve this problem, in fact, it would make it even more difficult to handle. This feature of variable juncture is almost unique to this class and one may doubt the accuracy of the transcription in OBG, but assuming its accuracy, the characteristic of each Postposition can be easily indicated as has been done in the list given in 2.5. The list is limited to forms found in OBG, though some other forms seem to act in the same way.

2.6 Noun Particle ⟶

hmá	locative, place or time at which	OBG:83
kà	'from, of'	OBG:84
	time in the past	
kóu	'to' 'toward' 'in the direction of'	
	time in the future, motion along,	OBG:85
	accusative, receiver of direct or indirect action	
nè	'accompaniment' 'instrumentality' 'distance from'	OBG:86

OBG:82 suggests that zero could be considered to be another Noun Particle. To do so would make the class of Noun Particles obligatory, though one alternative among the class would be zero. The zero choice (or as allowed for in 2.01, the absence of any particle) is used for the subject of a sentence or occasionally to show emphasis.

It appears that OBG errs considerably in the brevity of its list of

Noun Particles. Several other morphemes seem capable of occurring in the same position as the Noun Particles of OBG. A few of these additional Noun Particles are:

hmà 'from'

θòu 'toward'

twín 'inside, at'

tî 'until'

thêkà 'since'

The following examples show the use of these Noun Particles which are given in OBG as well as the manner in which a Noun is used with no Noun Particle.

myòù šìté 'there is a city, a city exists'

myòuhmá šìté '(he) is at the city'

myòukóu θwâté '(he) goes to the city'

myòukà láté '(he) comes from the city'

θîmbônè θwâté '(he) goes by steamer'

2.7 General Noun Particle ⟶

há emphasis	OBG:62
lê 'also'	OBG:64
lóu 'fashion, manner, way, like'	OBG:65
pá shows politeness	OBG:67
phê emphasis	OBG:68
the? 'than' comparative	OBG:69
tò 'as for' 'concerning' shows topic of conversation	OBG:70
lau? 'approximately, as much as'	OBG:155

lðu shows quotation OBG:74

kô + lâ 'what of?' 'how about'

The General Noun Particles terminate the Noun Expression. OBG gives at least two examples of two used together on the same Noun: hóuhálê 'that, emphasis, also' (OBG:62), and dílóuphê 'like that, emphasis' (OBG:68), but it is impossible to tell from OBG whether or not multiple usage is widespread or productive, and if so, what general rules govern the order of items. OBG specifies that há has the unique limitation that it does not occur on the second Noun Expression of Equational Sentences. It is simpler to zero it out if it gets inserted into such a location (as is done in 4.54) than to build in a restriction on its insertion. kô is said to occur only in questions and so it is considered here to form a single but discontinuous morpheme with lâ the interrogative particle.

OBG gives a few other items in its list of General Particles, which are said to be used with nouns (i.e., General Noun Particles) but their usage is restricted or varied enough to keep them off this revised list. yé (OBG:71) will be inserted in 4.32. mà (OBG:66) has already been introduced as a numeral suffix (2.49) and as part of some demonstratives (2.1). tè (OBG:75) is best regarded as a General Verb Particle rather than as a General Noun Particle.

dí lúhá, lúkâunphê 'this man (is a) good man (emphatic)'
(dí 'this' lú 'man' kâun 'good')

θúlê θwâté 'he also went' (θu 'he,' θwâ 'go')

dílóu lou?pá 'do (it) this way' (lou? 'do,' pá 'courtesy')

dí lúkô bènélê 'how about this person' (þènélê 'how')

bé ?achéinlau? 'about what time' (bé 'what,' ?achéin 'time')

3. Verb Expressions

3.0 Verb Expression Phrase Structure

3.01 Verb Expression → (Adverb#) Verb Expression

3.02 Verb Expression →

{Narrative Verb Phrase + Final Particle (+ General Verb Particle)
Imperative Verb Phrase (+ ma + nè)}

3.03 Narrative Verb Phrase →

Verb Base (Auxiliary Verb) (+ Secondary Verb Particle$_{1, 2}$)

3.04 Imperative Verb Phrase →

Verb Base (Auxiliary Verb) (+ Secondary Verb Particle$_{1, 3}$)

3.01 through 3.04 give the general form of the Verb Expression. Adverbs, if present, come before the Verb Base in open juncture but the other parts of the Verb Expression all follow the Verb Base almost always in close juncture. Verb Expressions are of two types, Narrative and Imperative, distinguished by the following: 1) the Final Particles differ in the two cases, and 2) only Narrative Expressions can include a General Verb Particle. One of several Final Particles (specifying tense and negation) always occurs in a Narrative Expression, but the only possibilities for an Imperative Expression are the absence of any Final Particle (imperative) and ma + nè (negative imperative). The General Verb Particles show interrogation, quotation, etc. The Verb Phrase to which these Particles are suffixed may consist of nothing but a Verb Base, but it may also include an Auxiliary Verb and Secondary Verb Particles. Some Secondary Verb Particles can occur with either a Narrative or Imperative Verb

Phrase (Group 1); some only with a Narrative Verb Phrase (Group 2); and some only with an Imperative Verb Phrase (Group 3). The relationships of the various morpheme classes to one another will be clarified by reference to the diagram in the introduction. It remains to specify the membership of each class.

3.1 Adverb →	bédò + lê 'when?'	OBG:70, 130
	bájàun + lê 'why?'	OBG:131
	bèné + lê 'how?'	OBG:57
	θei? 'very'	
	?ínmatán 'exceedingly'	
	khanà 'for a moment'	
	póu 'more'	
	dájàun 'that is the reason'	OBG:68, 91, 157
	dá #phyìn 'that being the case'	OBG:164
	mane?phán 'tomorrow	OBG:38
	mahni? 'last year'	OBG:85
	khùdín 'just now'	OBG:84
	?ayín 'formerly'	OBG:84
	manîmawêi 'not far'	OBG:167
	malámachîn 'until coming'	OBG:167
	pathamà 'first'	OBG:56
	Verb Base + D	OBG:164, 165
	ma + Verb Base + D	OBG:166
	kha? + Verb Base + D	OBG:171
	a? + Verb Base + D	OBG:173

<u>ta</u> + Classifier + D	OBG:176
<u>ta</u> + Classifier + D_2	OBG:177
Noun Base + D_3	OBG:173

The examples given in OBG include many items, both simple and complex which appear to form endocentric constructions with Verb Expressions and which can be conveniently called Adverbs. It is impossible to specify the precise syntactical characteristics of these Adverbs without extensive information beyond that found in OBG. It may be that some of them are completely uninflected. Some, however, seem to be capable of being used with a few of the Noun Particles. This raises the possibility that they should be considered some sort of Noun, though the fact that they never seem to be preceded by Demonstratives or followed by Classifier Phrases, that they cannot form a part of an Equationsl Sentence, and that there seem to be limitations even on the use of Noun Particles, all argue against letting these Adverbs simply be lost among Nouns. It may be that two or more subdivisions of Adverbs will have to be recognized, depending upon their varied ability to take Noun Particles, but the available evidence is too sketchy to do more than suggest the problems. It appears likely that individual Adverbs vary widely in the details of their usage.

<u>θeiʔ kâunté</u> 'very good' (kâun 'good')

<u>khínbyâ θwâyín póu kâunmé</u> 'If you go(it)will be better.'

(θwâ 'go'; yín 'if'; mé 'future')

<u>ʔayiṇkà bamá pyéihma néité</u> 'formerly (I) lived in Burma.'

(<u>kà</u> Final Particle; <u>pyéi</u> 'country'; <u>hmá</u> 'at'; <u>néité</u> 'lived')

A few explanatory comments on particular items in 3.1 are necessary.

dájaûn and dá phyîn occur only at the beginning of a sentence in the examples of OBG. They serve to tie their sentences to the preceding sentences and they may well have syntactical limitations quite different from other Adverbs. The examples of OBG include a few items (manîmawêi; malámachîn) which are clearly composed of pairs of verbs, each prefixed with the negation sign ma (nî 'near,' wêi 'far,' lá 'come,' chîn 'approach'). These items appear to act as uninflected Adverbs, but without further knowledge of their formation, those given in OBG are simply listed here as units.

Many doubled items also appear to act as Adverbs, though the limitations on doubling are obscure, and the data of OBG are simply not adequate to allow a satisfactory analysis. It is at least clear that doubling is an important process in the language and that doubling is carried out in a number of different ways. Doubled verbs may be used alone, preceded by kha? 'rather, somewhat,' or preceded by ta.

kâunkâun louʔté 'he works well' (kâun 'to be good'; louʔté 'works')

hnêihnêi pyôbá 'please speak slowly' (hnêi 'to be slow'; pyô 'to speak'; bá polite particle)

khaʔ phyêipyêi θwâbá 'go rather slowly' (khaʔ 'rather, somewhat'; phyêi 'slow'; θwâ 'go')

khaʔcîcî 'rather big' (cî 'big')

talwêlwê louʔté 'he did it wrong' (louʔ 'do'; lwê 'to err')

Derived Nouns which have ʔa as a first syllable are doubled without repeating the ʔa.

ʔamyôumyôu 'all varieties' (ʔamyôu 'kind, variety')

Classifiers may be doubled in two different ways (D and D_2).

tayauʔyauʔ 'one (person) by one" (yauʔ Classifier for people)

takhá takhá 'from time to time' (khá 'times')

Doubled Nouns may be preceded by ʔa (D_3).

ʔamyðumyðu 'cities in general' (myðu 'city')

D_1, D_2, and D_3, which appear in 3.1, prepare these items for various forms of doubling, that is, they indicate which items will eventually be doubled. The doubling will actually be carried out in 5.1.

3.2 Verb Base ⟶

houʔ 'is, is true'

ši 'there is' 'there are'

θwâ 'go'

sâ 'eat'

pêi 'give'

wà 'fat

wé 'buy'

wín 'enter'

cî 'big'

yaʔ 'stand'

sôyéin 'concerned'

thú 'answer'

etc.

Verb Bases constitute one of the largest form classes in Burmese, the examples given here simply being an arbitrary sample of a great number. As with Noun Bases, there are subsets of Verb Bases which can enter special

constructions. For instance only a limited number of Verb Bases can form the construction with ta- provided for in 2.27, and a complete grammar would have to indicate which these are, either in the list of Verb Bases, or else by listing the ta- forms separately. Similarly, only a restricted number of verbs take the Final Particles yè and kè (at least in colloquial speech, they may be more widespread in literature) and a complete grammar would have to indicate which these are. The same is no doubt true of many other constructions. It will be noticed that semantically this class encompasses both the area covered by English verbs and by English adjectives. cf, for instance, might as well be glossed 'to be big' as simply 'big.' It is essentially an intransitive verb. All Verb Bases can be used in an adjectival construction as shown in 4.13.

3.3 Auxiliary Verb → OBG:109-119

+ʔâ 'rest' 'at leisure'

+ʔaʔ 'right' 'proper'

+kâun 'good'

+khê 'hard' 'difficult'

+lauʔ 'enough' 'sufficient'

+phyiʔ 'happens' 'is practicable'

+seí 'sends' 'causes to do'

+taʔ 'knows how' 'is customary'

+thaiʔ 'is suitable ' 'fit'

+θin 'suitable, proper, becoming'

#néi 'continuous action'

#pêi 'for another'

As Auxiliary Verbs, the items of 3.3 act very much like the Secondary Verb Particles (3.4), and the basis for distinguishing them is not entirely clear in OBG. Apparently only the Auxiliary Verbs can occur as independent verbs. When one occurs in the same Verb Phrase with a Secondary Verb Particle, the Auxiliary Verb seems always to come first, though OBG gives few examples. Ability to co-occur with Secondary Verb Particles cannot be taken as diagnostic of the Auxiliary Verbs, since two Secondary Verb Particles occasionally occur with the same Verb Base. Presumably, there is a hierarchy of freedom of occurrence and it seems that the less productive items occur closer to the Verb Base and are more intimately related to it. In the absence of better data, I have preserved the analysis of OBG, which makes an absolute distinction between Auxiliary Verbs and Secondary Verb Particles, although the examples given do not fully justify it.

All items listed as Auxiliary Verbs in OBG are given in close juncture with the Verb Base. Two items occur in examples, however,--nɛ́i showing continuous action and pɛ̂i showing that the action is done for another person -- which act in a manner precisely parallel to the Auxiliary Verbs, except that they are shown following the Verb Base in open juncture. Assuming that the transcription of juncture is correct in OBG, these two items can still be listed with Auxiliary Verbs with the junctural difference indicated as is done in 3.3.

θwâté '(he) goes'

θwâʔaté '(he) is free to go'

θwâkhɛ̂té 'it is difficult to go'

θwataʔté '(he) knows how to go'

θwâ néité '(he) is going'

θwâ péité '(he) goes for someone else'

3.4 Secondary Verb Particle OBG:87

3.41 Secondary Verb Particle$_1$ ⟶ OBG:87-93

cà 'plurality'

khé 'different place or time'

laiʔ 'definitive action'

ʔôun 'continuance, repetition'

tò 'necessity, permission'

pá 'courtesy

3.42 Secondary Verb Particle$_2$⟶ OBG:94-6, 98-103.

chín 'want' 'desire'

hlà 'excess'

hnáin 'can' 'be able'

hlû 'imminence'

mî 'inadvertently' 'by mistake'

phû 'past time'

θêi 'still' further action. with negative: 'Not yet'

wùn 'dare'

yà 'must' 'get'

3.43 Secondary Verb Particle$_3$ ⟶ OBG:104-8

lâ 'urgent' 'imperative'

sân 'polite urgency'

séi 'first singular and third person commands'

sòu 'first plural commands'

yàʔáun 'first person plural commands'

léiséi 'first singular and third person command expecting compliance'

The Secondary Verb Particles are divided among three groups which are indicated by the subscripts, Group 1 occurring with all Final Particles, Group 2 only with Narrative Final Particles, and Group 3 only with Imperative Final Particles. Many of these are quite common. Examples given in OBG show that more than a single Secondary Verb Particle can be used in the same Verb Phrase, but no rules of order or limitations on co-occurrence are given and they cannot be generalized from the examples. The following pairs and triplets of Secondary Verb Particles occur in the examples in OBG. (In accordance with 5.37 pá is modified to pa in certain cases): hnáinpá, mìpá, θêipá, payàséi, paléiséi, páséi, càpáséi, càsòu, khèpálâ, chínθêi.

Examples of Secondary Verb Particles used in combaination with the Verb Base θwâ 'go,' and various Final Particles, include the following:

θwâyàmé 'must go'

maθwâyàphû 'don't need to go'

θwâchínté 'want to go'

θwâhnáinmé 'will be able to go'

θwâcàté 'they go' 'we go' 'you (plural) go'

θwâlâ 'go away!'

θwâsân 'please go'

θwâcàsòu 'let's go'

maθwâphûphû 'did not go'

3.5 Final Particle OBG:36-40

té present-past (colloquial, oral)

yè present-past (literary, rare)

kè present-past (literary, rare)

mé future

pí action which has begun, or state achieved

ma + phû negative (all tenses) OBG:46

léinmé 'will probably' OBG:97

The list of Final Particles in 3.5 is slightly longer than that given in OBG:36. OBG does not consider the negative sign (ma + phû) to be a Final Particle. However, ma + phû never co-occurs with any of the other Final Particles and every Narrative Verb Phrase occurs with one and only one of the Particles listed in 3.51. The only possible reason for not considering ma + phû to be a final particle, other than the irrelevant semantic one, is that it is a discontinuous morpheme since it includes a portion ma which comes before the verb base as well as another portion phû which ends up in the same position as other Final Particles. The easiest way to describe the situation is to include ma + phû among the other Final Particles and later (Section 5.22) to shift the ma to the front of the Verb Base by means of an Obligatory Transformation. Incidentally, this clarifies the semantic situation in Burmese, since the temporal distinctions made by some of these Final Particles cannot be made in negative sentences.

The suffix léinmé is considered in OBG to be formed from a Secondary Verb Particle léin which occurs only with the sign of the future mé. This rather peculiar limitation is most easily dealt with by listing the combination

as a separate particle so that there is no way to introduce the léin without simultaneously introducing mé.

3.02 provides for the possibility that a Verb Expression may have no Final Particle at all. Semantically such verb expressions are imperatives (OBG:41) and it is tempting, though not structurally necessary to provide for a Zero Final Particle with this meaning. Verb expressions without Final Particles (i.e., imperatives) do differ from those with the Final Particles listed in 3.5 in that they cannot occur with the General Verb Particles (3.6) and in that they can occur with a different set of Secondary Verb Particles. One Final Particle, ma + nè 'negative imperative' shares these characteristics (OBG:47). Like ma + phû the ordinary negative, ma + nè the negative imperative is discontinuous and its parts will be reordered in 5.22.

The following examples show the various Final Particles joined to the Verb Base lá 'come':

láté '(he) comes, came'

lámé '(he) will come'

lápí '(he) has come'

maláphû '(he) doesn't (hasn't, won't) come'

láléimé '(he) will probably come'

lá 'come'

maláné ' on't come'

3.6 General Verb Particle ⟶

lâ interrogative particle, anticipating either 'yes' or 'no' OBG:44,49

nó interrogative particle anticipating agreement OBG:73

lòu shows intent OBG:74

tè	quotative	OBG:75
léi	'of course'	OBG:72
θá	'only'	OBG:76

The General Verb Particles listed here include not only those listed by OBG:61 as occurring with Verbs, but also lâ, the sign of the interrogative. The distribution of lâ is identical to that of the others, and it is even semantically similar to one of them. Its separation from General Verb Particles in OBG seems to rest entirely upon the semantic importance of interrogation rather than upon its formal properties.

θwâmalâ 'will (he) go?'

θwâpínó '(he) has gone, hasn't he?'

θwâmalòu '(he) intends to go'

θwâmétè '(he) said (he) would go'

kâuntéléi 'of course (it) is good'

θwâθá 'just go!'

4. Transformations

Sections 1, 2, and 3 constitute the phrase structure portion of this grammar, and they turn out sequences of morphemes which underly certain relatively simple "kernel" Burmese sentences. Next, the generation of a number of more complex sentences must be provided for. These complex sentences can be considered to be built upon the simpler sentences generated in Sections 1 to 3. In a number of cases two simple sentences are combined to make a single more complex sentence and in other cases parts are added or dropped from sentences. Section 4 states the rules for the transformation of the

simple kernel sentences into the more complex ones. To obtain the sequences of phonemes which represent these sentences, both kernel and those derived by transformations, the morpheme sequences must be processed through a number of steps which rearrange a few discontinuous elements, specify the allomorphs of certain morphemes, and finally convert the resulting sequence of morphs into phonemes. These steps will be carried out in Section 5.

A few new notational conventions must be introduced. Subscripts will now be used to keep the various items of a formula distinct from one another. Thus a transformation may subordinate one verb to another and it is essential to avoid confusing the two verbs. In some transformations, elements of a wide variety may be carried along unchanged or dropped completely. Such units will be symbolized by capital letters from the end of the alphabet (X, Y, etc.), which simply stand for "any linguistic sequence standing in this position in the sentence." In the transformational formulae, unlike the phrase structure formulae given earlier, braces $\left\{ \right\}$ may occur to the left of the arrow as well as to the right showing that either one of two or more lines can be chosen. Where braces occur on both sides of the arrow the same line must be chosen from the right hand brace as is chosen in the corresponding left hand brace. When two sentences are combined into one, the two underlying sentences will be placed on the left, coupled together with a brace and arrow $\}\!\rightarrow$ and the resulting sentence placed to the right. Each transformation will be designated as either "optional" or "obligatory" depending upon whether or not all sentences conforming to the formulae on the left must be converted to the form on the right.

4.1 Subordinating Transformations

4.11, 4.12, and 4.13 constitute one of the chief ways by which complex

sentences are built up from simpler ones. They provide a means by which entire Verb Expressions can be subordinated either to another Verb (4.11 and 4.12) or to a Noun Expression (adjective transformation, 4.13).

4.11 Subordinating Particles, Optional: OBG:50, 60

X # Verb Phrase$_1$ + Y ˚ ⎫
Verb Expression$_2$ ˚ ⎭ ⟶

X # Verb Phrase$_1$ (+ (ma +) Subordinating Particle) ˚ Verb Expression$_2$ ˚

4.111 Subordinating Particle ⟶)BG:51-59

ǫáun 'in order that'

hmà 'after' prior completion

lðu 'because' 'since'

péidè 'although'

péimè 'although' (future)

tð 'when' 'after'

yín 'if' 'after'

yínlê 'if'

yín 'while'

This transformation uses one of the Subordinating Particles to subordinate one Verb Expression/or one whole sentence to another. In other words, it produces subordinate clauses. The Subordinating Particles are introduced into the same position with respect to the Verb Phrase that the Final Particle occupies in the main verb of a sentence, but verbs with Subordinating Particles differ syntactically in that they cannot be followed by General Verb Particles and they cannot form the main verb of a sentence. It appears that Subordinating Particles are

also unlike Final Particles in that they can all optionally co-occur with ma, the negative particle.

In 4.11 the phrase "Subordinating Particle" is placed in parentheses to indicate that a similar construction is possible in the absence of any particle. OBG gives the meaning of the construction with no particle as "concomitant action" (OBG:60). Four examples of the use of Subordinating Particles follow, the first two of which are written out in a way which parallels 4.11 to make the derivation completely explicit.

yéi	te?	té.
X	# Vb Phrase +	Y ˚
water	up-	is

The water is up.

sàun	néipá
Verb Expression	˚
wait!	

→

yéi	te?yín,	sàun	néipá.
X	# Vb Phrase +	Sub Part ˌ	Vb Exp
water	up if		wait

If the water is up, wait.

ma	θî	phû.
Vb Phrase +	Y	˚

(He) didn't know.

pyôṁîté.
Verb Expression ˚
(He) spoke inadvertently

→

ma	θî	lðu,	pyôṁîté.
ma Vb Phrase +	Sub Part ˌ	Verb Exp	˚
not know	because	spoke inadvertently	

(He) spoke inadvertently because (he) didn't know.

θú θwâyín, khínbyâlê θwâ. 'If he has gone, you go too.'
(θú 'he,' khínbyâ 'you,' lê 'also,' θwâ 'go')

kei?sà ˇsìlòu, khanà θwâmé. 'because there is business I am going for a moment' (kei?sà 'business,' khanà 'for a moment')

4.12 Subordination by Enclitic Particles; Optional: OBG:152-162

X # Verb Phrase$_1$ + Y ± } ⟶
Verb Expression$_2$ ±

X # Verb Phrase$_1$ + Enclitic + Noun Particle (+ General Noun Particle) #
Verb Expression$_2$ ±

4.121 Enclitic ⟶

tá 'which' 'that'

hmá 'about 'concerning'

té shows present or past time

mé shows future time

sayá 'need'

phòu 'intend' 'may'

tâin 'everytime'

tôun 'time when'

yóun 'if only'

ma + khín 'before' 'if not yet'

ma + phê 'without'

The Enclitic Particles act rather like the Subordinating Particles in that they also allow a Verb Expression (which may include a nominal subject,

an object, etc.) to be subordinated to another verb; but they differ from Subordinating Particles in that only those clauses formed by Enclitics can include Noun Particles and General Noun Particles. The Enclitic Particles, therefore, must be understood as converting Verbs and Verb Phrases into nominal use. It may appear tempting to consider the Enclitics an additional way of deriving Noun Stems from Verbs as was done in 2.24 and 2.25, but unlike the Verbs to which the Enclitics are attached, the Verbs of 2.24 and 2.25, cannot be associated with various Nouns acting as subject, object, etc., of the Verb. The Enclitics, therefore, convert whole sentences rather than Verbs alone to nominal use. A few enclitics (phóu, sayá), but apparently not all, can also be used in the adjective transformation described in 4.13. OBG is unclear as to whether the Enclitics can cooccur with the negative marker ma, except it states that khîn and pnê never occur without it.

bamá pyéihmá néi té ˙	bamá pyéihmá néi tôun kà
X # VB Phrase$_1$ + Y ˙	X # Vb Phr$_1$ + Encl + N.Part.
Burma country in live ed	Burma country in live when past
(I) lived in Burma.	
lúmyôu cou?kou pyôté ˙	lúmyôu cou?kóu pyôté.
Verb Expression$_2$	# Vb Exp$_2$ ˙
people me to spoke	people me to spoke
People spoke to me.	When I lived in Burma people spoke to me.

pyôtákóu ná léθalê 'Do you understand what was said?'

(pyô 'speak,' ná léθalê 'do you understand?'

békóu θwâphòu kâunθalê 'Where is it good to go?'

(békóu 'to where,' θwâ 'go,' kâunθalê 'is it good?

4.13 Adjective Transformation, Optional:

X # Noun Stem$_1$ (+ Noun Particle$_1$) # Y ÷
V # Noun Stem$_1$ (+ Noun Particle$_2$) # Z # Verb Phrase$_1$ + W ÷ ⟶

X # V # Z # Verb Phrase$_1$ + Adjective Suffix # Noun Stem$_1$ + Noun Particle$_1$ # Y ÷

4.131 Adjective Suffix ⟶

	<u>té</u> 'which is'	OBG:154.1, 126
	<u>mè</u> 'which will be'	OBG:126, 155
	<u>ma + tè</u> 'which is not'	OBG:154.1
	<u>phòu</u> 'for' (propose or possibility	OBG:127, 157
	<u>sayá</u> necessity or purpose	OBG:156

These suffixes subordinate verbs to nouns; i.e., they convert verbs into an adjectival use. (This differs from the transformations discussed in 4.11 and 4.12 in which verbs were subordinated to other <u>verbs</u>.) There is no special class of adjectives in Burmese. English adjectives usually have their closest equivalents among Burmese intransitive verbs. 4.13 means that if a Noun Base can be used with a verb in a sentence (the second sentence), then the verb together with adverbs and even with other nouns (represented by Z) can be inserted before the Noun Base to modify it and the whole sequence can then be used within another sentence, e.g.,

bá ʔapauʔ hóuhmá sɪθalə̂.

X # Noun Stem # Y :

What window there is?

'What window is there?'

leʔhma ʔapauʔ hmá wé té.

V # Noun Base + Final Particle$_2$ # (Z = Zero) # Verb Phrase + W :

Ticket window at buy

'(One) buys tickets at the window.'

bá leʔhmaʔ wé tè ʔapauʔ hóuhmá sɪθalə̂.

X # V # Verb Phrase +Adj. Suf. # Noun Stem # Y :

what ticket buy window there is

'What ticket window is over there?'

kə̂untè lú 'good person' (kə̂un 'be good,' lú 'person')

yauʔtè lú 'the person who arrives' (yauʔ 'to arrive')

θwə̂phðu lə̂n 'road for going' (θwə̂ 'go,' lə̂n 'road')

thɛ́insayɛ́ néiyɛ́ 'sitting place, place to sit down' (thɛ́in 'to sit,' néiyɛ́ 'place')

maθwɛ̂tè lú 'the person who does not go'

4.2 Miscellaneous Clauses

4.21, 4.22, 4.23, and 4.24 are necessary in order to allow for some of the examples given in OBG, but only the rule of 4.23 is explicitly considered in OBG and that only briefly. It is certainly risky to make generalizations on the basis of a few scattered examples, and these formulae can only be offered with

caution, but they may suggest profitable areas for further investigation of the language. So far as can be judged, they all act to build up the complexity of the permissible Burmese sentence.

4.21 ʔatweʔ, Optional: OBG:85, 86, 99, 156

$$X \# \left\{\begin{matrix}\text{Verb Phrase}\\ \text{Noun Stem}\end{matrix}\right\} + Y \pm \\ \text{Sentence}_2 \pm \Bigg\} \rightarrow X \# \left\{\begin{matrix}\text{Verb Phrase + } \underline{\text{tè}}\\ \text{Noun Stem}\end{matrix}\right\} \# \underline{\text{ʔatweʔ}} \# \text{Sentence}_2 \pm$$

ʔatweʔ, in effect, links one sentence to something preceding, either to another sentence or to a Noun. The approximate meaning of ʔatweʔ is to show causality, or to show that the statement of the concluding sentence is true because of something stated before the ʔatweʔ.

ʔalouʔ myí té .
X # Vb Phrase + Y ±
work much present
There is much work.

maθwéhnéinphû
Sentence$_1$
(I) cannot go

→

ʔalouʔ myí té ʔatweʔ maθwéhnéinphû .
X # Vb Phrase + tè # ʔatweʔ # Sentence$_1$ ±
work much because cannot go.
Because there is much work, I cannot go.

sʰísayé néisayé ʔatweʔ masθuyéinpéné 'do not worry about food and lodging'

(sʰísayé 'food,' néisayé 'lodging,' masθuyéinpéné 'do not worry')

4.22 shóuyín, Optional: OBG: 57, 58, 84, 158, 160

$$X \# \left\{\begin{array}{l}\text{Verb Phrase}_1 + \text{Final Particle} \\ \text{Noun Expression}\end{array}\right\} \# Y \div \left.\begin{array}{l} \\ \\ \\ \end{array}\right\} \longrightarrow$$

$$\text{Sentence}_2 \div$$

$$X \# \left\{\begin{array}{l}\text{Verb Phrase}_1 + \text{Final Particle} \\ \text{Noun Expression}\end{array}\right\} \# \text{shóuyín} \div \text{Sentence}_2 \div$$

shóuyín means 'if that is the case' and 4.22 forms sentences meaning 'if one thing is the case then another thing.' The similarity of the formula with shóuyín to that with ʔatweʔ (4.21) must make one suspect that if more were known they and perhaps other similar "conjunctions" could be grouped together in one type of transformation. OBG does not discuss either type of construction explicitly, though it gives several examples of both.

dílóu shóuyín, bèné louʔmalê 'if that is the case, how shall (I) act?'
(dílóu 'like that,' bèné.....lê 'how?' louʔma 'will do')

4.23 thín, Optional: OBG:78

$$X \# \text{Verb Phrase}_1 + \text{Final Particle}_1 + \text{General Verb Particle}_1 \div \longrightarrow$$

$$X \# \text{Verb Phrase}_1 + \text{Final Particle}_1 \div \text{thín} + \text{Final Particle} + \text{General Verb Particle}_1 \div$$

OBG gives a separate section to what it calls "Parataxis" but the only examples given are with the verb thín 'think,' believe.' In effect, this inserts the verb thín after any sentence (but before General Verb Particles such as lê 'interrogative') to show 'I believe,' "Do you believe?' etc.

θú θwâpí, thínθalê 'do (you) think he has gone?' (θú 'he' θwâpí 'has gone,' θú θwâpílê 'has he gone?')

4.24 Balanced question, Optional:

$$\text{Verb Phrase}_1 + \left\{\begin{matrix}\underline{\text{té}}\\ \underline{\text{me}}\\ \underline{\text{pí}}\end{matrix}\right\}(+\ \underline{\text{lə́}})\ \left\{\begin{matrix}.\\ -\end{matrix}\right\} \longrightarrow$$

$$\text{Verb Phrase}_1 + \left\{\begin{matrix}\underline{\text{té}}\\ \underline{\text{me}}\\ \underline{\text{pí}}\end{matrix}\right\}(+\ \underline{\text{lə́}})\ \#\ \text{Verb Phrase}_1 + \underline{\text{ma}} + \underline{\text{phə́}}\ (+\ \underline{\text{lə́}})\ \left\{\begin{matrix}.\\ -\end{matrix}\right\}$$

This couples together a positive and negative sentence to form a question. The resulting sentence is understood as a question whether or not the interrogative particle lə́ is included.

θwə́mé maθwə́phə́ 'will you go or not?' (θwə́ 'go,' mé 'future')

sə́palə́ masə́phə́lə́ 'have you eaten or not?' (sə́ 'eat,' lə́ 'question,' pa 'completed action')

4.3 Coupling

4.31 Verb Coupling, Optional: OBG:81

$$\left.\begin{matrix}X\ \#\ \text{Verb Phrase}_1 + Y\ \left\{\begin{matrix}.\\ -\end{matrix}\right\}\\ X\ \#\ \text{Verb Phrase}_2 + Y\ \left\{\begin{matrix}.\\ -\end{matrix}\right\}\end{matrix}\right\} X\ \#\ \text{Verb Phrase}_1\ \#\ \text{Verb Phrase}_2 + Y\ \left\{\begin{matrix}.\\ -\end{matrix}\right\}$$

4.31 combines two sentences which are identical except for their Verb Phrases. The Verb Phrases follow each other directly in the resulting sentence, unless the negative particle ma is included within Y, in which case 4.72 will automatically place it between the Verb Phrases, its correct position (OBG:46, Errata).

lú θwə́mé 'the man will go'

lú sə́mé 'the man will eat'

lú θwâ sâmé 'the man will go and eat'

lú θwâ masâphû 'the man will not go and eat'

4.32 Noun Coupling, Optional: OBG:71

X # Noun Expression$_1$ # Y .
X # Noun Expression$_2$ # Y .
} X # Noun Expression$_1$ (+ yé) , Noun Expression$_2$ (+ yé) # Y .

4.32 combines two sentences which are identical except for a Noun Expression. The Noun Expressions may each be followed by yé ('both...and') but this is not obligatory

mún phyú θwâdé 'Mr. Phyu went' 'mún mâ θwâdé 'Mr. Me went'

mún phyúyé, mún mâyé θwâdé 'Both Mr. Phyu and Mr. Me went.'

4.4 Echoing Classifiers, Obligatory: OBG:143

Noun Base$_1$ # Number + Echoing Classifier ⟶ Noun Base$_1$ # Number + Noun Base$_1$

4.4 transforms the Echoing Classifier to the form of the Noun with which it is used. The subscript 1 indicates that it takes the form of that particular Noun Base. Naturally this is obligatory whenever the Echoing Classifier appears since otherwise it has no form.

ʔéin taʔéin 'one House'

4.5 Zeroing

4.51 Zeroing tiʔ, Optional: OBG:134, 138

tiʔ + Classifier$_{1-7}$ # Number + Classifier$_0$ ⟶ Classifier$_{1-7}$ # Number + Classifier$_0$

This allows ti?('one') to be omitted from the first Classifier Phrase of a pair or series.

tashè takhù or shè takhù 'eleven items'

(ti? in accordance with 5.31 has been morphophonemically altered to ta in this example.

4.52 Zeroing Noun Stem before Classifier Phrases, Optional:

X # Noun Stem # Classifier Phrase # Y $\underline{\cdot}$ → X # Classifier Phrase # Y $\underline{\cdot}$

4.53 Zeroing Noun Stem before Time Classifiers, Obligatory: OBG:144

X # Noun Stem # Number + Time Classifier # Y $\underline{\cdot}$ ⟶

X # Number + Time Classifier # Y $\underline{\cdot}$

Classifier Phrases are often used without any antecedent nouns. This is true even of Echoing Classifiers, in which case of course, they are echoing something that has now disappeared. Classifier Phrases formed from Time Classifiers never have antecedent nouns.

As developed here, a Noun Stem has been introduced as an obligatory constituent of each Noun Expression. However, if a Classifier Phrase is included within the Noun Expression, it becomes possible to Zero out the Noun Stem after all. The Classifier now carries much of the semantic load formerly carried by the Noun.

θ̂unkáun θwếpí 'three animals went away'

(θ̂un 'three,' káun classifier for animals, θwế 'go,' pí 'completion')

dí hnayau?hmá maš̆ípû 'these two people don't have any'

(dí 'this,' hna 'two,' yau? classifier for people, hmá 'at,' maš̆ípû 'there is none')

4.54 Zeroing Verb Expressions, Optional: OBG:77

Noun Expression # Verb Expression ˙ ⟶ Noun Expression ˙

If the context is clear, a Noun Expression may be used alone without any Verb Expression, in what OBG calls a "minor sentence."

bɑ́lə̀ 'what?'

dɔlmɑ́ 'here!'

4.55 Zeroing hɑ́, Obligatory: OBG:62

Noun Expression ˙ Noun Expression + hɑ́ ˙ ⟶ Noun Expression ˙ Noun Expression ˙

This peculiar and limited formula is necessary to eliminate hɑ́ from the second member of Equational Sentences as required by OBG:62 (see section 2.7).

4.56 Zeroing phðu, Optional: OBG:130

Verb Base + phðu # Noun Base ⟶ Verb Base + Noun Base

Nouns which are modified by adjectival verbs in their phðu form (section 4.13) may also be preceded by the Verb in close juncture forming a special type of compound.

θauʔphðu yéi 'water for drinking' (θauʔ 'drink' yéi 'water')

θauʔyéi 'drinking water'

taiʔphðu cwə̀ 'buffalo for fighting' (taiʔ 'fight,' cwə̀ 'buffalo')

taiʔcwə̀ 'fighting buffalo'

4.57 Zeroing extra interrogative markers, Obligatory:

kə̂ + lə̂ # Y + lə̂ ⟶ kə̂ # Y + lə̂.

$$X + \underline{1\hat{e}} \# Y + \underline{1\hat{e}} \cdot \longrightarrow X + \underline{1\hat{e}} \# Y \cdot$$

$$X + \underline{1\hat{e}} \# Y + \underline{n\acute{o}} \cdot \longrightarrow X + \underline{1\hat{e}} \# Y \cdot$$

Interrogative markers have been introduced in a number of places (1ê in 2.1, 2.3, and 3.1; 1â in 2.7 and 3.6; nó in 3.6), and nothing in the earlier rules has prevented more than one interrogative particle appearing in the same sentence. In case two have been inserted, one of them must be dropped out. If either 1â or nó occur with 1ê, only 1ê will remain.

4.58 Zeroing extra negatives, Obligatory:

$$X + \underline{ma} + \underline{ph\hat{u}} \# Y + \underline{ma} + \left\{\begin{matrix}\underline{ph\hat{u}} \\ \underline{n\hat{e}}\end{matrix}\right\} \longrightarrow X \# Y + \underline{ma} + \left\{\begin{matrix}\underline{ph\hat{u}} \\ \underline{n\hat{e}}\end{matrix}\right\}$$

ma + phû 'negation' was introduced in 2.1 as a part of certain demonstratives, and negation was also introduced in 3.02 and 3.5. 4.58 is necessary in order to avoid double negation of the same verb.

5. Morphophonemics

5.1 Doubling

The final portion of this sketch will operate upon the strings of morphemes which have been provided for earlier, in such a way as to produce strings of phonemes in the transcription used in OBG. Seven1 steps are required for this. First, a number of items must be doubled. The symbol D has been introduced a number of times (Demonstratives, Pronouns, Adverbs) to indicate that some item is to be doubled. Since doubling operates upon phonological syllables rather than upon morphemes, it is necessary at this point to begin considering the sequences of symbols which have represented the morphemes to be less arbitrary than was possible earlier. The Burmese syllable must include

an initial consonant, a vowel (which is sometimes nasal), and a tone. The symbols which have been used can now be defined as belonging to the following sets:

V(owel): a, an, i, in, u, un, ei, ein, ou, oun, e, o, ai, ain, au, aun.

T(one): `, ´, ^, ?, (when final).

C(onsonant): All other lower case letters including initial ?.

In the following formulae CVT will stand for any combination of Consonant, Vowel, and Tone (i.e., for any syllable), and when it is necessary to keep two syllables distinct subscripts will distinguish them. All Doubling formulae are Obligatory.

5.11 bá + D + 1@ # X ⟶ bá # X # bá # X + 1@ OBG:178

5.12 badú + D + 1@ ⟶ badú # badú + 1@ OBG:178

5.13 # CVT + D ⟶ # CVTCVT OBG:164, 173

5.14 # CVT_1 CVT_2 + D ⟶ # CVT_1CVT_1 # CVT_2CVT_2 OBG:165

5.15 # ma + CVT + D ⟶ # maCVTmaCVT OBG:166

5.16 # kha?CVT + D ⟶ # kha?CVTCVT OBG:171

5.17 # ?aCVT + D ⟶ # ?aCVTCVT OBG:173

5.18 # taCVT + D ⟶ # taCVTCVT OBG:173, 176

5.19 # ta + CVT + D_2 ⟶ # ta + CVT # ta + CVT OBG:177

5.1-10 # CVT + D_3 ⟶ # ?aCVTCVT OBG:173

The data of a few of the sections in OBG which concern doubling (168-170, 174-175) cannot be included here because the origin of the items that OBG states should be doubled is unclear. Examples of each type of doubling follow:

bá ʔayáun oa ʔayáunlê 'what colors are there?'

badú badú θwêpêlê 'who all went?'

hnêihnêi 'slowly' (hnêi 'to be slow')

θéiθéi chéché 'precisely' (θéichété 'to be precise')

macámacá 'regularly' (cáté 'to be a long time')

khaʔcĕcĕ 'rather big' (cĕté 'to be big')

ʔamyôuyôu 'all kinds' (ʔamyôu 'race, variety')

takhûkhû 'one by one' (khû classifier for miscellaneous objects)

takhá takhá 'from time to time' (khá 'times')

ʔaywáywá 'villages in general' (ywá 'village')

5.2 Shifting Order

OBG:49, 54, 55, 1

5.21 Demonstratives, Obligatory:

$$\left\{\begin{matrix}\underline{bé}\\ \underline{bâ}\end\right\} \underline{mà} + \underline{ma} + \underline{phû}\ (\#\ \text{Noun Phrase} + \text{Noun Particle})\ (+\ \text{General Noun Particle})\ \#\ \text{Verb Expression}\ \underline{\cdot} \longrightarrow$$

$$\left\{\begin{matrix}\underline{bé}\\ \underline{bâ}\end\right\} (\#\ \text{Noun Phrase} + \text{Noun Particle}) + \underline{mà}\ \#\ \text{Verb Expression} + \underline{ma + phû}\ \underline{\cdot}$$

békóumà maθwâphû '(he) didn't go anywhere'

5.22 Negatives, Obligatory:

Verb Phrase + ma + { phû / nè / khín / phê / Subordinating Particle / Enclitic } → ma + Verb Phrase + { phû / nè / khín / phê / Subordinating Particle / Enclitic }

maθwânè 'don't go'

5.23 Questions, Obligatory

{ bé / bá / béhna / bédò } + lê (# X) ˙ ⟶ { bé / bá / béhna / bédò } (# X) + lê ˙

kô + lâ (# X) ˙ kô (# X) + lâ ˙

5.21, 5.22, and 5.23 rearrange the parts of discontinuous morphemes into their proper order relative to each other and to other parts of the sentence. 4.51 reorders the parts of the negative Demonstratives, 5.22 places the ma part of the negatives before the Verb, and 5.23 places the interrogative sign (lê or lâ) at the end of the sentence. OBG does not treat these as parts of discontinuous morphemes, but rather as separate morphemes, so it faces no problem of rearrangement.

5.24 ʔôun, Obligatory: OBG:91

ʔôun + nè ⟶ nèʔôun

5.24 is required since ʔôun was introduced as a Secondary Verb Particle in 3.4 and nè was introduced as a Final Particle in 3.02. In the usual case the Final Particle follows the Secondary Verb Particle. Here alone the order is reversed.

maθwâné?ôun 'don't go yet' (θwâ 'go,' ma + nè negative imperative, ?ôun 'further action')

5.3 Morphology

5.31 Loss of tone on Numbers, Obligatory: OBG:132

{ti? / hni? / khúnni?} + Classifier ⟶ {ta / hna / khúnna} + Classifier

tayau? 'one man'

5.32 Change of tone on Classifiers, Obligatory:

{shé / yá} # Number ⟶ {shè / yà} # Number

OBG:134

OBG:136

5.33 Alteration of Final Particles before Interrogative, Obligatory: OBG:44

{té / mé / pí} + {lâ / lê} → {θa / ma / pa} + {lâ / lê}

5.34 Alteration of Final Particles, Optional: OBG:65, 72, 154.2

{té / mé / pí} + {lêi / lóu} → {θa / ma / pa} + {lêi / lóu}

5.35 Change of negative sign before Interrogative, Obligatory: OBG:49

phû + lê ⟶ θalê

békóumà ma θwâphû '(he) didn't go anywhere'

békóumà maθwâθalê 'didn't (he) go anywhere?'

5.36 Tone change on pá, Optional: OBG:92.2

pá + mé ⟶ pàmé

5.37 Tone change on pá, Obligatory: OBG:92.1

pá + léi ⟶ paléi

pá + yà ⟶ payà

5.38 Tone change on possessives, Optional: (see 2.1, 2.23) OBG:125

$\hat{CV}$ + T ⟶ CV̀

$\acute{CV}$ + T ⟶ CV̀

CV̀ + T ⟶ CV̀

CV? + T ⟶ CV?

θû 'he'

θù nyí 'his younger brother'

5.39 Loss of comma pause in Equational Sentences, Optional:

Noun Expression ˌ Noun Expression (+ General Verb Particle) ˙ ⟶

Noun Expression # Noun Expression (+ General Verb Particle) ˙

5.31 through 5.39 alter the shapes of various morphemes according to the particular environment in which they occur. That is, they specify the allomorphs of the morphemes. This having been done, one remaining step will convert the

strings of symbols into the form which has been used throughout this paper for the examples: the explicit juncture signs must be replaced by more conventional punctuation. All other symbols remain graphically the same but they can be interpreted as phonemes.

5.4 Juncture

+ becomes close juncture, indicated by the absence of space.

becomes open juncture indicated by a space.

$\underline{\text{ˀ}}$ becomes comma juncture indicated by ", ".

$\underline{\text{˚}}$ becomes terminal juncture indicated by ". ".

Although these rules result in a phonemic transcription of Burmese sentences, it is not yet the same as the transcription of OBG. Burmese speech has extensive although completely regular phonetic assimilation between the final of one syllable and the initial consonant of the next syllable. This assimilation is indicated in the transcription of OBG, but has not so far been indicated in either the rules or examples of this sketch. Thus, in OBG the same morpheme may be written in several different ways depending upon what comes before and after it. To go from the transcription used so far in this paper to the transcription of OBG, the following regular rules must be observed.

5.5 Regular Phonemic Assimilation OBG: 28, 29

5.51 $\left\{\begin{matrix}\acute{V}\\ \grave{V}\\ \hat{V}\end{matrix}\right\} \left\{\begin{matrix}p\\ t\\ k\\ s\\ c\\ \theta\end{matrix}\right\}$ (h) $\longrightarrow$ $\left\{\begin{matrix}\acute{V}\\ \grave{V}\\ \hat{V}\end{matrix}\right\} \left\{\begin{matrix}b\\ d\\ g\\ z\\ j\\ \check{z}\\ \delta\end{matrix}\right\}$

5.52 $$? C_1 \begin{Bmatrix} h \\ V \end{Bmatrix} \longrightarrow C_1 C_1 \begin{Bmatrix} h \\ V \end{Bmatrix}$$

5.53 $$? \begin{Bmatrix} hm \\ hn \\ hŋ \\ hl \end{Bmatrix} \longrightarrow \begin{Bmatrix} phm \\ thn \\ khŋ \\ thl \end{Bmatrix}$$

5.54 $$n \begin{Bmatrix} ph \\ p \\ b \\ m \end{Bmatrix} \longrightarrow m \begin{Bmatrix} ph \\ p \\ b \\ m \end{Bmatrix}$$

5.55 $$n \begin{Bmatrix} kh \\ k \\ g \\ ŋ \end{Bmatrix} \longrightarrow ŋ \begin{Bmatrix} kh \\ k \\ g \\ ŋ \end{Bmatrix}$$

5.51 means that voiceless consonants other than s̆, h̆, ?, become voiced when following a vowel with one of the tones ´, ` , ^, Vowels must be understood as defined in 5.1 to include the final n, the sign of nasalization. In other words, after close juncture all initial consonants (except s̆, h̆, ?) are voiced <u>unless</u> the previous syllable is toneless or has the tone .

5.52 and 5.53 indicate that ? (which occurs after vowels to indicate one of the tones) takes on the shape of the following consonant, or in the case of pre-aspirated nasals it takes the shape of the homorganic voiceless stop.

5.54 and 5.55 indicate the manner in which vowel nasalization assimilates to the phonetic characteristics of the following consonant.

Clearly the rules of assimilation follow intuitively reasonable patterns, and in fact the entire situation could be very simply described in terms of distinctive features. However, the detailed phonetic description of the

phonemes that have now been produced is outside the scope of this paper. This final rule is sufficient to turn out Burmese sentences in the form in which they are transcribed in OBG.

6. Index to Outline of Burmese Grammar

For the sake of those who may wish to compare the treatment of Burmese given here with the original in OBG, the following list of the relevant sections of OBG is provided, with an indication of the sections of this restatement where the rule is treated.

OBG Section	Restatement Section
1 - 30	Phonemics: omitted from restatement
31 - 35	Introductory material, scattered through restatement
36 - 40	3.5
41	3.02, 3.5
42	1.2, 5.39
43	3.6
44	5.33
45	1.2
46	3.5, 4.3
47	3.02, 3.5
48	Not considered separately
49	3.6, 5.35
50 - 60	4.11
61	Introductory material
62	2.7, 4.55
63 - 64	2.7

OBG Section	Restatement Section
65	2.7, 5.34
66	2.1, 2.49, 2.7
67 - 70	2.7
71	2.7, 4.32
72	3.6, 5.34
73	3.6
74 - 75	2.7, 3.6
76	3.6
77	4.53
78	4.23
79 - 80	1.3
81	4.31
82 - 86	2.6
87	3.4
88 - 92	3.41
92.1	5.37
92.2	5.36
94 - 96	3.42
97	3.51
98 - 103	3.42
104 - 108	3.43
109 - 119	3.3
120	3.42
121 - 123	Introductory material
124	2.26

OBG Section	Restatement Section
125	2.1, 2.22, 5.38
126 - 127	4.12
128	2.22, 2.221
129	2.26
130	4.56
131	2.1, 2.3
132	2.42, 5.31
133	2.48
134	5.32
135	2.48
136	5.32
137	2.47
138, 139	2.48
140	2.21
141	2.4
142	2.45
143	2.44, 4.4
144	2.44, 4.53
145	2.48
146 - 148	2.45
149	Introductory material
150	2.24
151	2.27
152 - 154	4.12

OBG Section	Restatement Section
154.1	4.12, 4.13
154.2	4.12, 5.34
155	4.12, 4.13
156	2.25, 4.12, 4.13
157	4.12, 4.13
158 - 162	4.12
163	Introductory material
164	3.1, 5.15
165	5.14, 5.16
166	3.1, 5.15
167	3.1
168 - 170	Not included - see introduction
171	3.1, 5.15
172	Introductory material
173	3.1, 5.17, 5.19, 5.1-10
174-175	Not included -- see introduction
176	3.1, 5.18
177	3.1, 5.19
178	2.1, 5.11, 5.12

NOTES

1. My interest in Burmese began during a year spent in Burma (1959-60) as a Fulbright lecturer at the University of Rangoon. In 1962-63, as a grantee under the National Defense Education Act, I was able to work with a Burmese informant in Philadelphia and was allowed the free time to pursue the work which this paper represents. I am indebted both to the Fulbright Foundation in Rangoon and to the Office of Education, Department of Health, Education and Welfare for making my research possible. I am also indebted to several former colleagues at the University of Pennsylvania, Paul Friedrich, Frank Southworth, and Clifford Green, all of whom read earlier versions of this paper and attempted to straighten me out on numerous points.

2. Cornyn, William, Outline of Burmese Grammar. Language Dissertation No. 38, Supplement to Language, Vol. 20, No. 4, 1944.

3. Chomsky, Noam, Syntactic Structures. 'S-Gravenhage, 1957.